Lab 7 – Strategies and Game Theory

Stag-Hunt

This game was proposed by the French philosopher Jean Jacques Rousseau and represents the following scenario:

Two hunters meet before a hunt. Before starting they must decide on whether to hunt a rabbit or a stag.

The stag hunt is harder and will only work if both cooperate. On the other hand, each hunter can individually and easily hunt rabbits.

However, stag meat is tastier and a single animal has more meat than several rabbits.

Thus, they both agree, initially, to cooperate to hunt a stag. From then on, they will only meet in the end. Thus, a question of trust arises. Will the other hunter keep his promise to hunt the stag or should I stick to rabbits?

Possible actions in this scenario are:

1. **stag**: if the hunter decides to cooperate and hunt the stag.
2. **rabbit**: it the hunter defects and hunts rabbits.

The payoff matrix is:

P1 \ P2	**stag**	**rabbit**
Stag	(3, 3)	(0, 2)
Rabbit	(2, 0)	(1, 1)

Table 1 – Payoff matrix for the *Stag Hunt* game.